

PROFILES IN soil health

Ann Frederick
Greene County, Iowa
700 acres
Corn and Soybeans
Covers: Turnips, Oats, Wheat, Rye

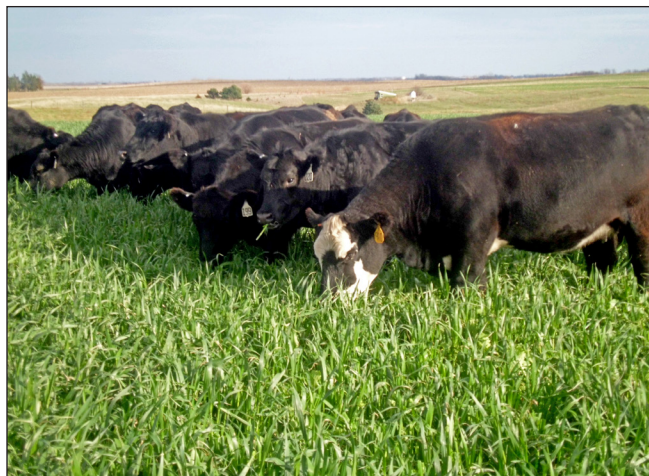
unlock the
SECRETS
IN THE
SOIL

Family Synchronized on Cover Crops.

Ann Frederick's family thinks alike on cover crops and conservation. "Cover crops work well on our farm because of our cows," Ann says. "We all agree cover crops are good for our cows and good for our ground."

Ann and her husband Al farm about 700 acres in Greene County, Iowa, with their son Bill. "Taking care of the soil is the top priority on our farm," Ann says. "You can't take the goody out of the soil and wear it out. It's the only soil we're ever going to have. That's what I was taught growing up on the farm."

Her husband Al has a similar background. He followed his father, Robert, as a soil and water conservation district commissioner in Greene County. Now son Bill is following in Al's footsteps, volunteering his time and talents to the board as a district commissioner in the same county.



Cover crops and cows are a good combination on Ann and Al Frederick's farm. The cows graze all fall and winter; the combination of something green growing on the land nearly all year long and the addition of manure to the land speed soil building.

"Al's dad did the things for soil protection on his own that many farmers get paid for these days," Ann says. "He kept fragile, steeper lands seeded to grass and left strips of grass along streams instead of farming up to the water's edge."

"We've followed up on that in the 40 years we've been farming, building terraces, putting in grassed waterways and wetlands, and including hay into the crop rotation on hills."

Al and Ann have also done a lot of conservation at their own expense, including planting cover crops before government incentives were offered. More recently, they did apply for incentives to seed some fields as part of the Environmental Quality Incentives Program.

Cover crops and cows

"For years and years, we've planted turnips for our cows to graze," Al says. "They're cheap and the cows like them."

The turnips are part of a cover crop combination that the 80 cows in their Angus herd seem to like. "Turnips are cheap to seed and the cows like them," Al says.

"They come up fast, they're hardy into the winter, and the cows just love them. The tops regrow—they're the first thing the cows will eat when they find them," adds Ann. "We usually plant 4 to 6 pounds of turnips with 2 bushels of oats per acre in the summer after we've taken silage off a field, or in mid-July after we've combined wheat or rye. The cows can graze a long time on the oats and turnips in the fall, and even into the winter."

"Wheat, rye, and turnips will take a cold snap," Al says. "You can't graze them into the ground, and you don't get a significant amount of feed, but you can have cows out in those fields over the winter. Then you'll get some feed for a short time in the late winter or early spring."

Cover crops after corn and soybeans

Six or seven years ago, Al felt cover crops would be a good way to help in a switch to no-till planting of corn and soybeans. "I had read about them, and thought they would make the soil more mellow at



"Our cows love turnips," say Greene County farmers Al, Bill and Ann Frederick. The turnips are a regular in a cover crop mix that may include oats, wheat, or rye.

planting for a no-till planter," Al says. "We had been using a field cultivator to prepare the ground for planting corn into soybean stubble. But we don't use it any more."

They use cover crops on all their soybean stubble and some of their corn stubble, seeding about 250 acres each fall. They grow their own rye and wheat seed for cover crops. "Flying seed on is our preference. We can get 200 acres seeded in a

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- Al Frederick,

morning, and since we can fly onto growing crops, the cover crop gets more days to grow," Al says. "I really like to combine soybeans and look behind me to see the ground covered with green."

"Ideally, we want to fly cover crops into a soybean field just before the leaves fall," Ann says. "You can seed too early. The seeds might get a start, but a heavy canopy can kill the plants if they don't begin to get some sunlight."

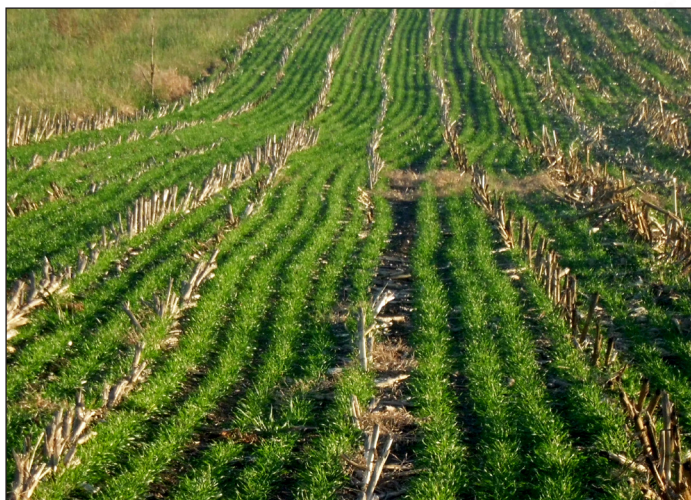
While the Fredericks have flown cover crops on four of the past five years, Ann has driven the tractor to seed her share of cover crops with their John Deere 750 drill. She's also put in her share of temporary electric fence to allow the cows to temporarily graze the cover crops.

Seeing the difference

While the Fredericks think the payoff for cover crops is long term soil building and soil health, they also say they've already seen differences in the soil and crops. "These past two years, our fields really handled all the rainfall we've had," Al says. "We didn't have water standing in the fields. It was obvious we have better soil structure with more air in the soil, the way those rains were soaked up."

Al dug holes into the ground to investigate root growth. "The holes showed us how these root channels go deep, and help break up any hardpan layers in the soil from the past," Ann says. "And the worm holes were all over. We can see the natural activity from the roots is having a good effect on the soil, giving us a bonus of putting more nutrients into the soil."

"You don't know it, because you don't see much growth on top of the ground in the fall sometimes," Al adds. "And I have to say that they don't always work. Sometimes there's not enough moisture in the late summer and fall, and sometimes the crop canopy shades them too much. "But when the cover crops do get established, they're working for you and



The wheat cover crop Ann drilled after corn was chopped for silage in the summer of 2012 had excellent growth by mid-October.

your soil all winter long. Then the next spring you really see the top growth."

Ann says the benefits go beyond the soil. "Cover crops are really part of a crop rotation—rotations have always been a good farming practice. The wheat can suffocate some of the weeds, and I think the cover crops and no-till have helped us cut down on other inputs, like herbicides and fertilizers," says Ann, who does the farm bookkeeping.

If Al were to ever pass on before her, Ann says she would continue to manage the farm with their son Bill. "And we'd keep doing cover crops and no-till," Ann says. "They work so well for us with our cows. The way they work for us, it's 100 percent sustainable."

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